

Friday, February 13, 2015 10:54:48 AM

Item ID: D3319-3

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Full-Length Wearplate

Start Date: 2/13/2015 **Start Qty:** 10.00

10

Cust Item ID:

Required Date: 2/13/2015 **Req'd Qty:** 10.00

10

Customer:

Reference:

Run Start *NR1*

Approvals: Process Plan: MLJ Date: 1502-13 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D3319	C
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100

0.00

100

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3319

Dwg Rev: C

Prog Rev:

2-Deburr if necessary

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

10 ~~2~~ Jun 15-14

10 \$ JM15-2-14

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129541

129541

Page 2

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Item ID: D3319-3 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Full-Length Wearplate
Start Date: 2/13/2015 Start Qty: 10.00 *10* Cust Item ID:
Required Date: 2/13/2015 Req'd Qty: 10.00 *10* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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120	QC8- Inspect parts - second check	0.00							
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120

QC

Memo

Quality Control

DAS

38

9-89

FEB 17 2015

140	NC BRAKE	0.00			DAS				
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140

Brake NC

Memo

Brake NC

Form using DT8326 & DT8261 as per Dwg D3319Rev: C

DAS

30

9-89

15/02/23

150	QC6- Inspect dimensions to drawing	0.00							
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150

QC

Memo

Quality Control

DAS

38

9-89

FEB 23 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge		
☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other		

Work Order ID 129541

129541

Page 3

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Item ID: D3319-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Full-Length Wearplate
Start Date: 2/13/2015 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 2/13/2015 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* Large Fab	Weld per dwg A/R Hardcoat steel Batch: _____ Large Fab	0.00				10	15-03-25		MAL
Large Fab	Memo	0.00							
	Weld hard surface using D3319-3T2 per OSI 004 and Dwg D3319 Batch A/R 7560 Hardcoat Rod	<u>M 131416</u>							
170 *170* QC	QC10- Inspect visual per QSI004- ground welds	0.00				10	15-3-27		DAS 50 9-89
Quality Control	Memo	0.00							
180 *180* QC	QC5- Inspect part completeness to step on W/O	0.00				10	15-2-27		DAS 50 9-89
Quality Control	Memo	0.00							

5
15/03/27 (10)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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Offset/Setup									
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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129541

129541

Page 4

Friday, February 13, 2015 10:54:48 AM

Item ID: D3319-3 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Full-Length Wearplate
 Start Date: 2/13/2015 Start Qty: 10.00 *10* Cust Item ID:
 Required Date: 2/13/2015 Req'd Qty: 10.00 *10* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* Powdercoat Powder Coating	Grey Sandtex(Ref:4.3.5.6) per OSI005 4.3 <i>M12 8564</i> Memo START TIME: <i>8:15</i> OVEN TEMPERATURE: <i>320</i> FINISH TIME: <i>8:45</i>	0.00 0.00							<i>10</i> <i>15-4-1</i> <i>DAS 34 9.89</i>
200 *200* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							<i>10</i> <i>DAS 38</i> <i>APR 01 2015</i>
210 *210* Packaging Packaging	Packaging Memo Identify on inside surface using a permanent fine point marker with the following:TCCA-PDA, Dart Aerospace Ltd.P/N: D3319-3, B/N: BXXXXXFor Product Eligibility see PDA05-18 and Stock Location: <i>ST 6003</i>	0.00 0.00							<i>10x</i> <i>SPS-04-9</i>

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129541***129541***

Page 5

Friday, February 13, 2015 10:54:48 AM

Item ID: D3319-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Full-Length Wearplate
Start Date: 2/13/2015 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 2/13/2015 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.00							
Quality Control									

MLJ 15-04-10

②154-9

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Picklist Print

Friday, February 13, 2015 10:54:51 AM

Page 1

Work Order ID: 129541

129541

Parent Item: D3319-3

D3319-3

Parent Item Name: Full-Length Wearplate

Start Date: 2/13/2015

Required Date: 2/13/2015

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP: A05.05.12New issueKJ/JLM
IPP Rev:B Now on Waterjet 06-10-03 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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M1010S18GA

Purchased

No

100

sf

171.3542

3.2524

35

M1010S18GA

**

Jm15-2-14

1010/1025 SHEET .048

Location

Loc Qty

Loc Code

MAT019

171.354152

124428

11

m130454

0.3542

m131353

160

131353

DQA: _____ Date: _____



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Unapproved ☐									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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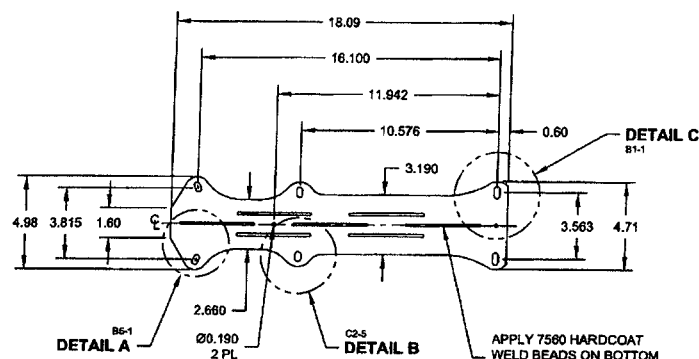
DART AEROSPACE LTD		Work Order:	129541
Description: Wearplate		Part Number:	D3319-3
Inspection Dwg: D3319	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

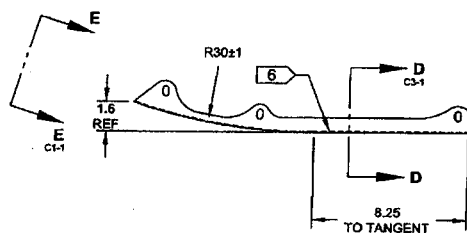
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.190	+0.005/-0.001	0.192"	-		✓	Jkmo1
Ø0.500	+0.006/-0.001	0.503"	-		✓	
0.316	+/-0.010	0.318"	-		✓	
0.607	+/-0.010	0.612"	-		✓	
2.94	+/-0.030	2.94"	-		✓	
2.69	+/-0.030	2.69"	-		✓	
3.527	+/-0.010	3.527"	-		✓	
4.52	+/-0.030	4.52"	-		✓	
5.063	+/-0.010	5.063"	-		✓	
6.16	+/-0.030	6.16"	-		✓	
0.60	+/-0.030	0.605"	-		✓	
8.690	+/-0.010	8.698"	-		✓	
30.790	+/-0.010	30.790"	-		T	
52.88	+/-0.030	52.88"	-		T	
62.770	+/-0.010	62.776"	-		T	
74.420	+/-0.010	74.420"	-		T	
75.52	+/-0.030	75.52"	-		T	
0.050	+/-0.010	0.049"	-		✓	

Measured by:	Jm	Audited by:	DAS 38 0.80	Preliminary Approval:	
Date:	15-2-14	Date:	FEB 17 2015	Date:	

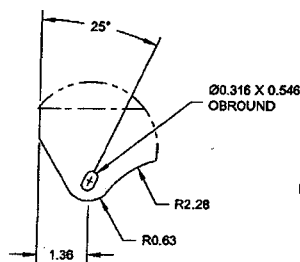
Rev	Date	Change	Revised by	Approved
A	07.07.18	New Issue	KJ/JLM	
B	12.05.15	Dimensions updated per Dwg Rev C	KJ	



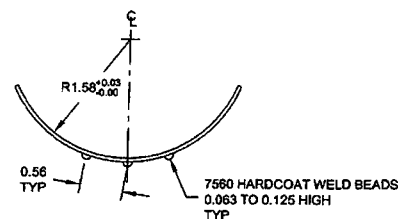
D3319-1F FLAT PATTERN



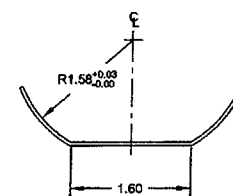
D3319-1 BENDING DETAIL
MAKE FROM D3319-1F



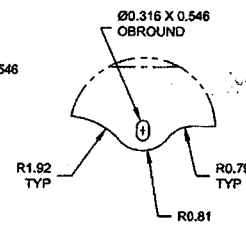
DETAIL A
SCALE 4X



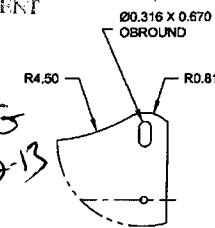
SECTION D-D
SCALE 4X



SECTION E-E
SCALE 4X



DETAIL B
SCALE 4X



DETAIL C
SCALE 4X

D3319-1 WEARPLATE

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A368/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK) REF. DART SPEC. M1010-S18GA
- 2) FINISH: POWDER COAT GREY SANTEX (REF.4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY ON INSIDE SURFACE WITH "TCCA-PDA, DART AEROSPACE LTD., P/N D3319-1 B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA05-18" PER DART QSI 044 6.1 (FINE POINT PAINT MARKER)
- 7) WEIGHT: 0.90 lbs APPROX
- 8) SYMMETRY: ABOUT CENTERLINE

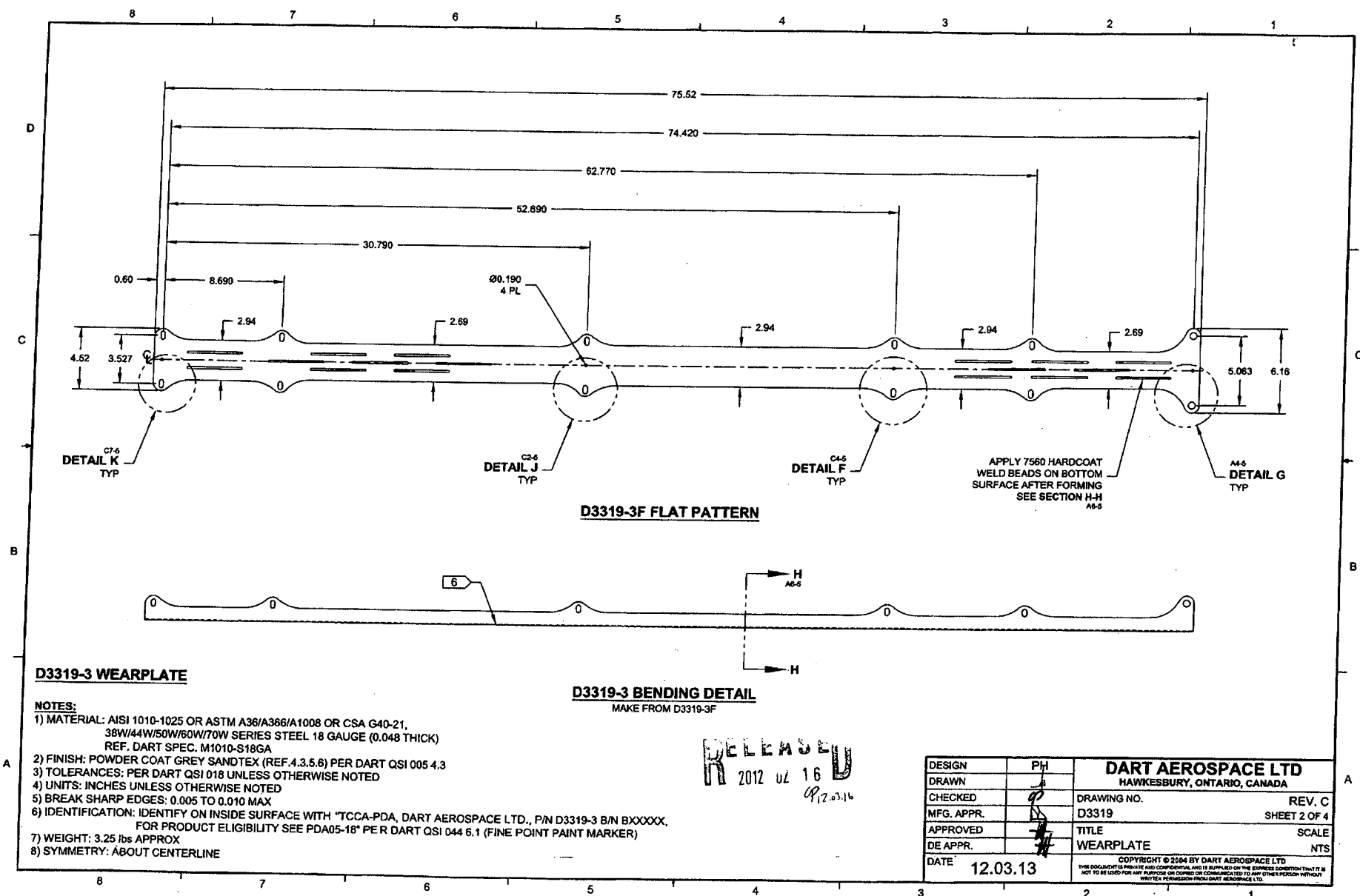
RELEASED
R 2012-03-16
PER ECN 12-546 9/12-03-16

C	UPDATE TO CURRENT STANDARDS IAW QSI 043; CLOSED AFT. MOST HOLE ON -3/5-7 (REF DETAIL G). SEE NCR12-547.	MB	12.03.13
B	WIDEN HOLES, REDUCE WIDTH ON -3/5-7	PH	05.06.06
A	NEW ISSUE	PH	04.09.24
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	J		
CHECKED	Q		
MFG. APPR.	D		
APPROVED	H		
DE APPR.	H		
DATE	12.03.13		

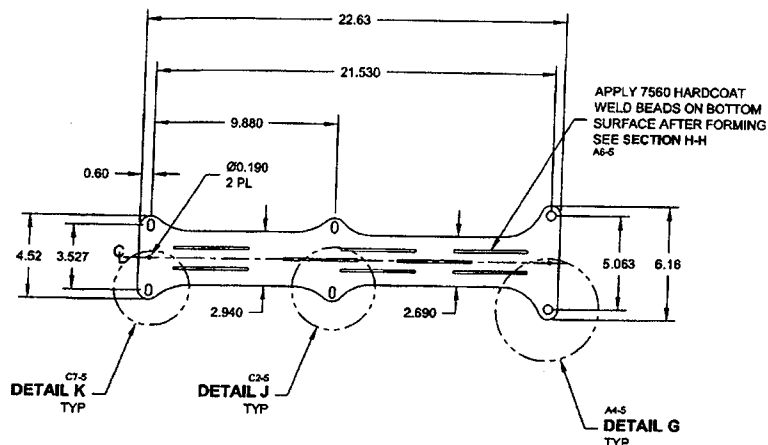
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3319
TITLE WEARPLATE
REV. C
SHEET 1 OF 4
SCALE NTS

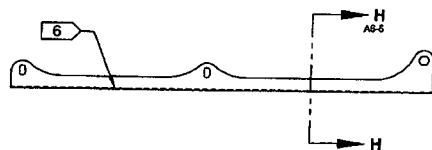
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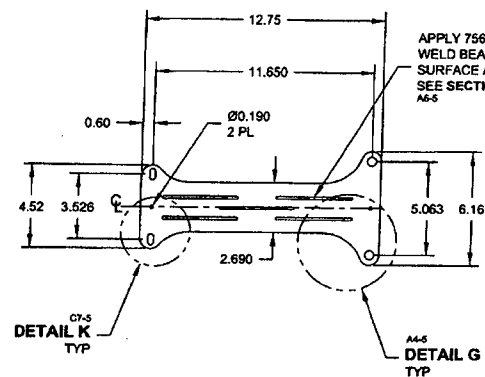
RELEASE
2012 JUL 16
CP 12.03.14



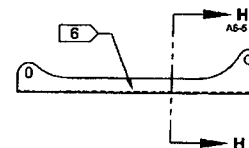
D3319-5F FLAT PATTERN



D3319-5 BENDING DETAIL
MAKE FROM D3319-5F



D3319-7F FLAT PATTERN



D3319-7 BENDING DETAIL
MAKE FROM D3319-7F

D3319-5-7 WEARPLATE

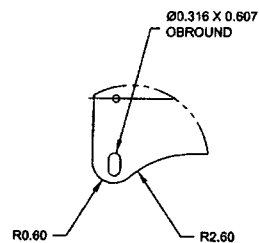
NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 18 GAUGE (0.048 THICK) REF. DART SPEC. M1010-S18GA
- 2) FINISH: POWDER COAT GREY SANDEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY ON INSIDE SURFACE WITH "TCCA-PDA, DART AEROSPACE LTD., P/N D3319-X B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA05-18" PER DART QSI 046 6.1 (PERMANENT MARKER)
- 7) WEIGHT: D3319-5 = 1.05 lbs APPROX; D3319-7 = 0.60 lbs APPROX
- 8) SYMMETRY: ABOUT CENTERLINE

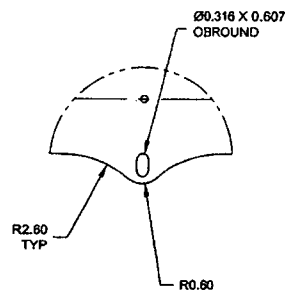
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2012-02-16

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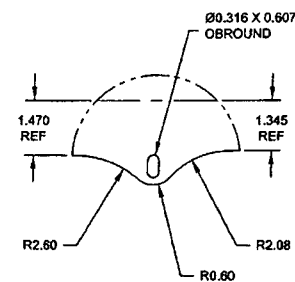
DESIGN	PH	DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3319	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE	NTS
DATE	12.03.13	COPYRIGHT © 2004 BY DART AEROSPACE LTD	
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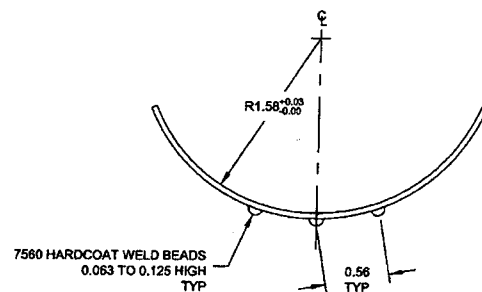
DETAIL K
SCALE 2X
B8-2
C4-3
C8-3



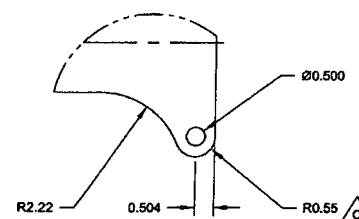
DETAIL F
SCALE 2X
B3-2



DETAIL J
SCALE 2X
B8-2
C7-3



SECTION H-H
SCALE 4X
B4-2
B3-3
B6-3



DETAIL G
SCALE 2X
B8-2
C2-3
C6-3

RELEASED
2012-02-16
12.03.13

DESIGN	PH	DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. D3319	REV. C
MFG. APPR.		TITLE	SHEET 4 OF 4
APPROVED		WEARPLATE	SCALE
DE APPR.			NTS
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